

State of California  
AIR RESOURCES BOARD

Executive Order G-70-140-A

Certification of Integral Phase I and Phase II  
Aboveground Tank Configurations Using  
the Healy Phase II Vapor Recovery System

This Executive Order shall supersede Executive Order G-70-140 dated March 17, 1992.

WHEREAS, the Air Resources Board (the "Board") has established, pursuant to Sections 39600, 39601, and 41954 of the Health and Safety Code, certification procedures for systems designed for the control of gasoline vapor emissions displaced during the filling of storage tanks at service stations ("Phase I vapor recovery systems") and for the control of gasoline vapor emissions from motor vehicle fueling operations ("Phase II vapor recovery systems") in its "Certification Procedures for Gasoline Vapor Recovery Systems at Service Stations" as last amended December 4, 1981 (the "Certification Procedures"), incorporated by reference in Section 94001 of Title 17, California Code of Regulations;

WHEREAS, the Board has established, pursuant to Sections 39600, 39601, and 41954 of the Health and Safety Code, test procedures for determining compliance of Phase I and Phase II vapor recovery systems with emission standards in its "Test Procedures for Determining the Efficiency of Gasoline Vapor Recovery Systems at Service Stations" as last amended September 1, 1982 (the "Test Procedures"), incorporated by reference in Section 94000 of Title 17, California Code of Regulations;

WHEREAS, James W. Healy of Cambridge Engineering, Incorporated has applied for recertification of the Healy vacuum assist system for Phase II vapor recovery for aboveground gasoline storage tank systems utilizing a remote dispenser to include the #9000 mini-jet;

WHEREAS, Section VIII-A of the Certification Procedures provides that the Executive Officer shall issue an order of certification if he or she determines that a vapor recovery system conforms to all of the requirements set forth in Sections I through VII; and

WHEREAS, the Executive Order G-70-70 series contain the certification orders for Healy vacuum assist Phase II vapor recovery systems;

WHEREAS, I find that the Healy vacuum assist system for remote dispenser operation, when used with ARB Certified Phase I and Phase II aboveground tank balance systems, conforms with all the requirements set forth in Sections I through VII of the Certification Procedures;

NOW, THEREFORE, IT IS HEREBY ORDERED this certification shall apply to the use of the Healy vacuum assist system for Phase II vapor recovery for aboveground gasoline storage tank systems utilizing a remote dispenser. The systems certified hereby are shown in Exhibits 1, 2 and 3 attached hereto and may be used on aboveground single product tanks, split product tanks or multiple tanks which have been previously certified for Phase I and Phase II balance system operation.

IT IS FURTHER ORDERED that this system is certified to be at least 95 percent effective when used with a Board certified aboveground gasoline Phase I and Phase II storage tank system. A typical piping arrangement and parts list for the Healy Phase II system for a single suction pump located within 15 feet of the storage tank and where the vapor return piping is not routed below the level of the hose adaptor is shown in Exhibit 1. The piping arrangement and parts list for application to multiple nozzles, multiple tanks or where the vapor return piping is routed below the level of the hose adaptor (underground piping) is shown in Exhibits 2 and 3.

IT IS FURTHER ORDERED that a condensate trap as shown in Exhibits 2 and 3 shall be used when the vapor return piping is routed below the level of the hose adaptor. All exposed piping shall be insulated to the equivalent of 2 inches of material with a "K" value of 0.30 or less. The jet pump assembly shall be shaded by a sheet metal enclosure painted white.

IT IS FURTHER ORDERED that compliance with the rules and regulations of the local air pollution control district with jurisdiction where the installed system is located, shall be made a condition of this certification.

IT IS FURTHER ORDERED that the tank and associated piping and other equipment not specifically listed as approved Phase I or Phase II equipment in Executive Order G-70 series shall comply with the rules and regulations of the local fire officials with jurisdiction where the installed system is located, and that the use of a PV valve shall require the prior approval of such local fire official.

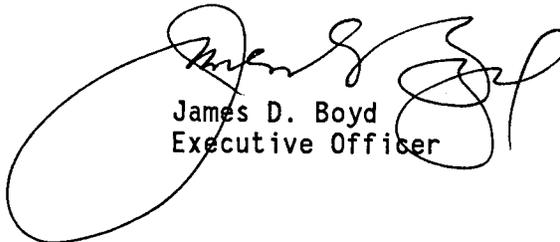
IT IS FURTHER ORDERED that compliance with all applicable certification requirements and rules and regulations of the Division of Measurement Standards, the Office of the State Fire Marshal, and the Division of Occupational Safety and Health of the Department of Industrial Relations shall be made a condition of this certification.

IT IS FURTHER ORDERED that any alteration of the equipment, parts, design, or operation of the configurations certified hereby, is prohibited, and deemed inconsistent with this certification, unless such alteration has been approved by the undersigned or the Executive Officer's designee.

IT IS FURTHER ORDERED that the certified Healy Phase II vapor recovery system shall, at a minimum, comply with the manufacturer's recommended operation, installation and maintenance procedures.

IT IS FURTHER ORDERED that the Healy Phase II vapor recovery system nozzle, jet pump, control valve and multi-jet pump shall be 100 percent performance checked at the factory including checks of proper operation in all aspects of performance.

Executed this 1<sup>ST</sup> day of July 1992, at Sacramento, California.



James D. Boyd  
Executive Officer

Executive Order G-70-140-A

Healy Phase II Vapor Recovery System for Integral Aboveground Gasoline Tank Systems Utilizing a Remote Dispenser

This drawing is not to be used for making reproductions without the written permission of Cambridge Engineering, Inc.

REFERENCE CODES

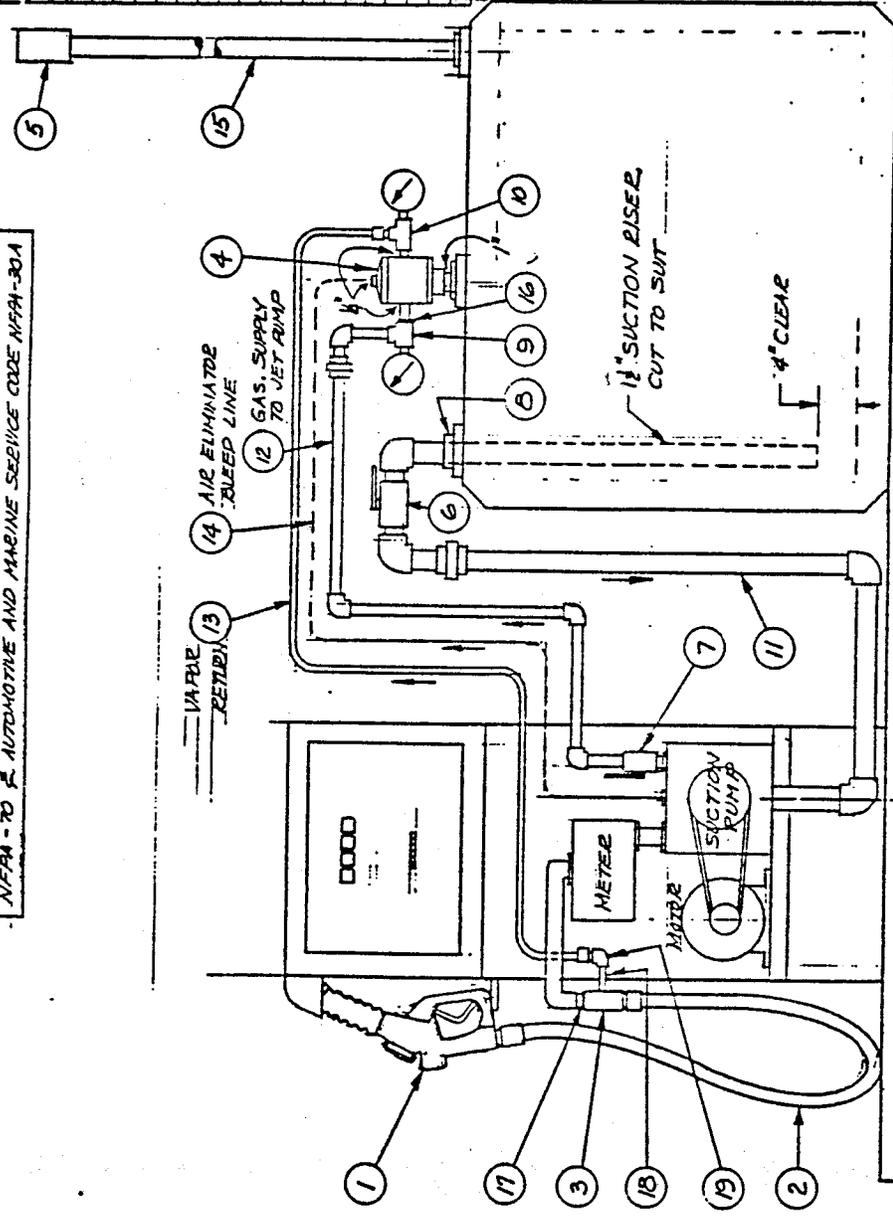
THIS EQUIPMENT TO BE INSTALLED IN ACCORDANCE WITH NFPA-30A TO AUTOMOTIVE AND MARINE SERVICE CODE NFPA-30A

REVISIONS

REV	DATE	DESCRIPTION	BY	APPROVAL
1	5/1/79		JUN	

PARTS LIST

ITEM QTY	PART NO.	DESCRIPTION
1	200	NOZZLE
2	200-100-3/4	CO-AXIAL HOSE
3	CA6	HOSE ADAPTER
4	100	JET PUMP
5	H-PIG-2	PRESSURE MAG. VENT VALVE
6	1/2"	BALL VALVE
7	1/2"	DOUBLE TAP BUSHING
8	1/2"	BALL VALVE
9	1/2"	BALL (W/INFLATE PRESS. GAGE)
10	1/2"	BALL VALVE
11	1/2"	BALL FITTINGS
12	1/2"	BALL FITTINGS
13	1/2"	BALL FITTINGS
14	1/2"	BALL FITTINGS
15	1/2"	BALL FITTINGS
16	1/2"	BALL FITTINGS
17	1/2"	BUSHING, GRY
18	1/2"	BUSHING, GRY
19	1/2"	NIPPLE
20	1/2"	ELBOW



CARB APPROVED ABOVE GROUND STORAGE TANK WITH STAGE I EQUIPMENT IN CONCRETE OR OTHER EQUIVALENT TEMPERATURE STABILIZATION EXTERNAL COVER.

DO NOT SCALE THIS DRAWING

ABOVE GROUND TANK INSTALLATION WITH SUCTION PUMP

CAMBRIDGE ENGINEERING, INC. FITTINGS, INC. HEAD C 5001-112

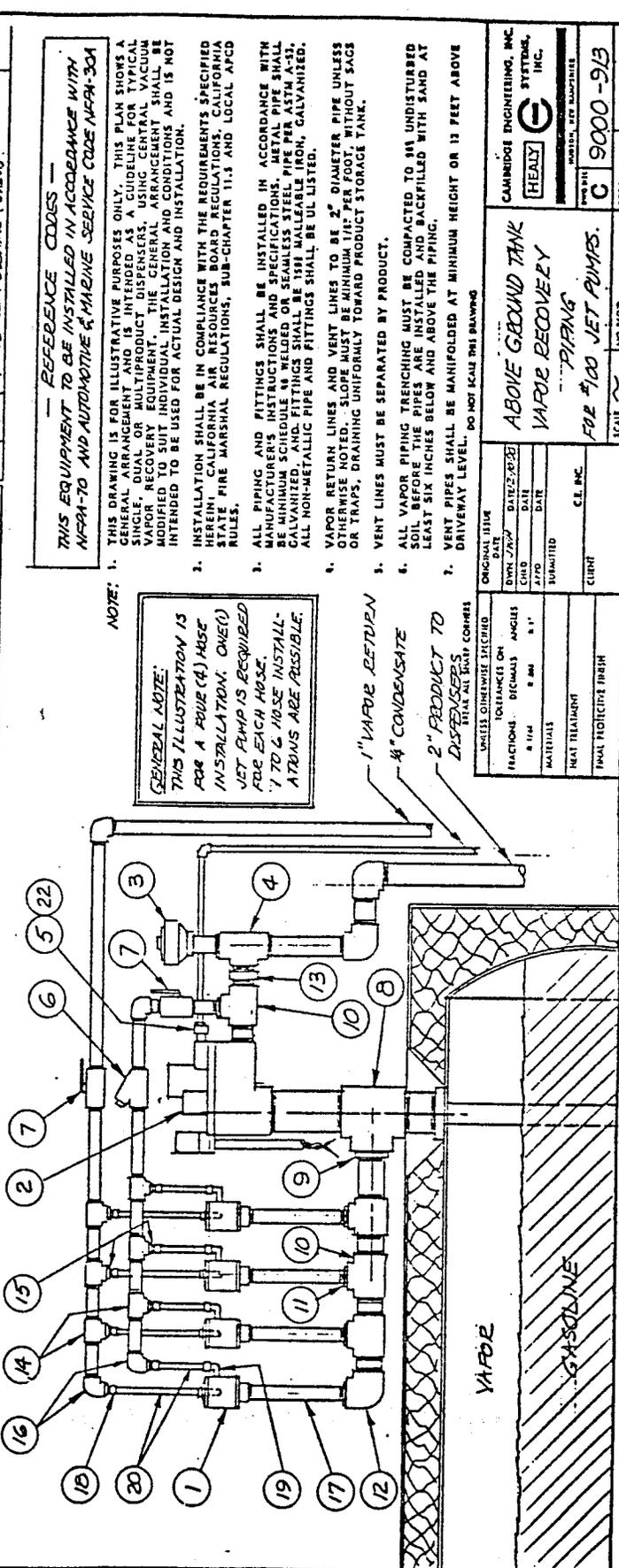
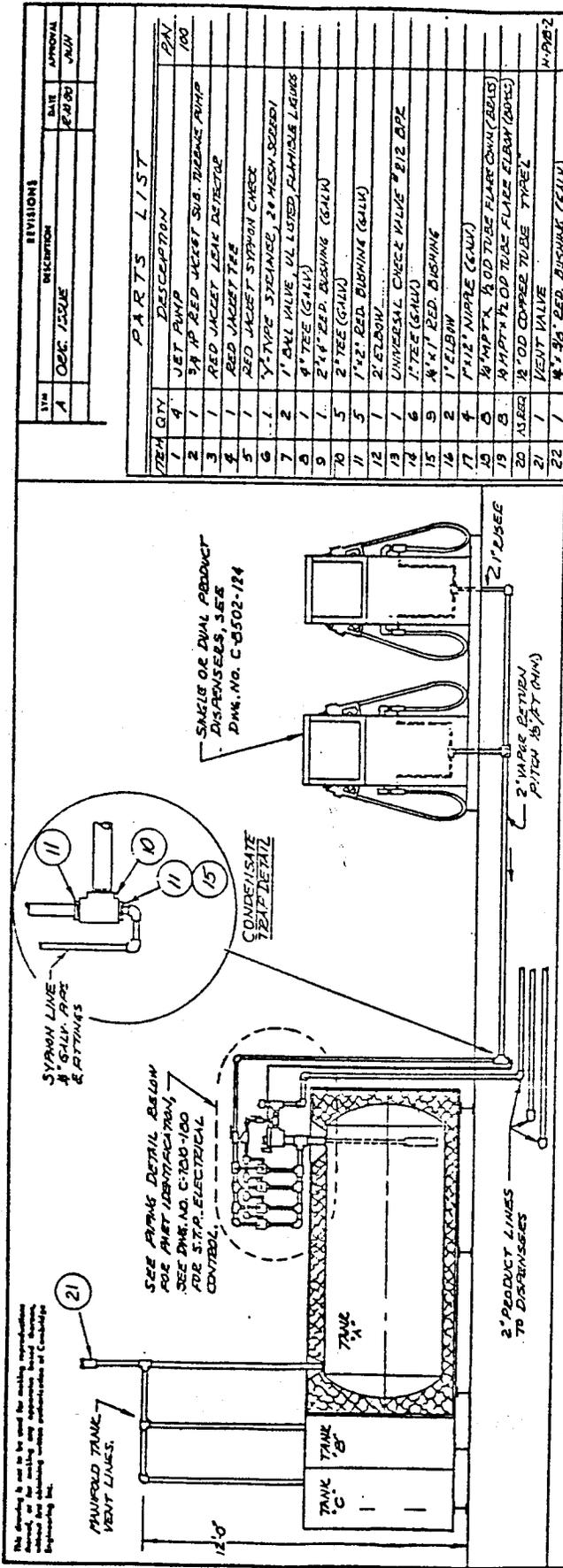
MAKE ALL WELD CORNER

ORIGINAL REV		DATE	
DESIGNED BY	DATE	DATE	DATE
CHECKED BY	DATE	DATE	DATE
APPROVED BY	DATE	DATE	DATE
SUBMITTED		DATE	
C.E. INC.		DATE	
FINAL TREATMENT		DATE	
FINAL PROTECTIVE FINISH		DATE	

NOTES:

- THIS DRAWING IS FOR ILLUSTRATIVE PURPOSES ONLY. THIS PLAN SHOWS A GENERAL ARRANGEMENT AND IS INTENDED AS A GUIDE ONLY. THE EXACT LOCATION OF THE SUCTON PUMP AND THE LOCATION OF THE SUCTON PUMP FOR VACUUM SHALL BE ACCORDING TO SUIT INDIVIDUAL INSTALLATION AND CONDITIONS AND IS NOT INTENDED TO BE USED FOR ACTUAL DESIGN AND INSTALLATION.
- INSTALLATION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED HEREIN, CALIFORNIA AIR RESOURCES BOARD REGULATIONS; CALIFORNIA STATE FIRE MARSHAL REGULATIONS; SUB-CHAPTER 11.3 AND LOCAL APCD RULES.
- ALL PIPING AND FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND SPECIFICATIONS. METAL PIPE SHALL BE MINIMUM SCHEDULE 40 WELDED OR SEAMLESS STEEL PIPE PER ASTM A-53, GALVANIZED, AND FITTINGS SHALL BE 150# MALLEABLE IRON, GALVANIZED. ALL NON-METALLIC PIPE AND FITTINGS SHALL BE UL LISTED.

Healy Phase II Vapor Recovery System for Integral Aboveground Gasoline Tank Systems Utilizing a Remote Dispenser



**REFERENCE CROSS —**  
**THIS EQUIPMENT TO BE INSTALLED IN ACCORDANCE WITH NFPA-70 AND AUTOMOTIVE & MARINE SERVICE CODE NFPA-30A**

- NOTE:**
- THIS DRAWING IS FOR ILLUSTRATIVE PURPOSES ONLY. THIS PLAN SHOWS A SINGLE MANIFOLD SYSTEM. IT IS INTENDED AS A GUIDELINE FOR TYPICAL SINGLE, DUAL OR MULTIPRODUCT VAPOR RECOVERY SYSTEMS. THE GENERAL ARRANGEMENTS SHOWN ARE MODIFIED TO SUIT INDIVIDUAL INSTALLATION AND CONDITIONS AND IS NOT INTENDED TO BE USED FOR ACTUAL DESIGN AND INSTALLATION.
  - INSTALLATION SHALL BE IN COMPLIANCE WITH THE REQUIREMENTS SPECIFIED HEREIN, CALIFORNIA REGULATIONS, BOARD REGULATIONS, CALIFORNIA STATE FIRE MARSHAL REGULATIONS, SUB-CHAPTER 11.3 AND LOCAL APCD RULES.
  - ALL PIPING AND FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND SPECIFICATIONS. METAL PIPE SHALL BE SCHEDULE 40 WELDED OR SEAMLESS STEEL PIPE PER ASTM A-53, GALVANIZED. ALL FITTINGS SHALL BE 15# MALLEABLE IRON, GALVANIZED. ALL NON-METALLIC PIPE AND FITTINGS SHALL BE UL LISTED.
  - VAPOR RETURN LINES AND VENT LINES TO BE 2" DIAMETER PIPE UNLESS OTHERWISE NOTED. SLOPE MUST BE MINIMUM 1/8" PER FOOT, WITHOUT SAGS OR TRAPS, DRAINING UNIFORMLY TOWARD PRODUCT STORAGE TANK.
  - VENT LINES MUST BE SEPARATED BY PRODUCT.
  - ALL VAPOR PIPING TRENCHING MUST BE COMPACTED TO AN UNDISTURBED SOIL BEFORE THE PIPES ARE INSTALLED AND BACKFILLED WITH SAND AT LEAST SIX INCHES BELOW AND ABOVE THE PIPING.
  - VENT PIPES SHALL BE MANIPULATED AT MINIMUM HEIGHT OR 13 FEET ABOVE DRIVEWAY LEVEL. DO NOT SCALE THE DRAWING.

**GENERAL NOTE:**  
 THIS ILLUSTRATION IS FOR A HOSE (4) HOSE INSTALLATION. ONE(1) VENT PUMP IS REQUIRED FOR EACH HOSE. 1" TO 2" HOSE INSTALLATIONS ARE POSSIBLE.

**REVISIONS**

REV	DATE	DESCRIPTION	APPROVAL
1	08/23/82	100% ISSUE	JMH

**PARTS LIST**

ITEM	QTY	DESCRIPTION	PAN
1	4	JET PUMP	100
2	1	3/4" IP RED JACKET SUB. TURBINE PUMP	
3	1	RED JACKET LEAK DETECTOR	
4	1	RED JACKET TEE	
5	1	RED JACKET SYNCH CHECK	
6	1	1" VALVE SYNCHRONIZER, 2" MESH SCREEN	
7	2	1" VALVE UL LISTED, FLAMMABLE LIQUID	
8	1	4" TEE (GALV)	
9	1	2" RED BUSHING (GALV)	
10	5	1" RED BUSHING (GALV)	
11	5	2" TEE (GALV)	
12	1	2" ELBOW	
13	1	UNIVERSAL CHECK VALVE #B12 022	
14	6	1" TEE (GALV)	
15	9	4" X 1" RED BUSHING	
16	2	1" ELBOW	
17	4	1 1/2" NIPPLE (GALV)	
18	8	3/4" MPT X 1/2" OD TUBE FLARE NUT (BRASS)	
19	8	3/4" MPT X 1/2" OD TUBE FLARE ELBOW (BRASS)	
20	1	1/2" OD COPPER TUBE TYPICAL	
21	1	VENT VALVE	
22	1	4" X 3/4" RED BUSHING (GALV)	

ORIGINAL DATE	DATE/REV
DRAWN BY	DATE
CHECKED	DATE
SUBMITTED	DATE
CURT	C.E. INC.

**ABOVE GROUND TANK VAPOR RECOVERY PIPING FOR #100 JET PUMPS.**

SCALE: ~ NO. 100

HEALY ENGINEERING, INC. SYSTEMS, INC.

9000-913

CONTRACT NO. 9000-913

DATE: 08/23/82

PROJECT: ABOVE GROUND TANK VAPOR RECOVERY PIPING FOR #100 JET PUMPS.

SCALE: ~ NO. 100

HEALY ENGINEERING, INC. SYSTEMS, INC.

9000-913

CONTRACT NO. 9000-913

DATE: 08/23/82

PROJECT: ABOVE GROUND TANK VAPOR RECOVERY PIPING FOR #100 JET PUMPS.

